

FILTER LENSES FOR PROTECTION AGAINST RADIANT ENERGY—Continued

Operations	Plate thickness—inches	Plate thickness—mm	Minimum* protective shade
Heavy	Over 6	Over 150	5

* As a rule of thumb, start with a shade that is too dark to see the weld zone. Then go to a lighter shade which gives sufficient view of the weld zone without going below the minimum. In oxyfuel gas welding or cutting where the torch produces a high yellow light, it is desirable to use a filter lens that absorbs the yellow or sodium line in the visible light of the (spectrum) operation.

(b) *Criteria for protective eye and face devices.* (1) Protective eye and face protection devices must comply with any of the following consensus standards:

(i) ANSI Z87.1–2003, “American National Standard Practice for Occupational and Educational Eye and Face Protection,” which is incorporated by reference in §1915.5;

(ii) ANSI Z87.1–1989 (R–1998), “American National Standard Practice for Occupational and Educational Eye and Face Protection,” which is incorporated by reference in §1915.5; or

(iii) ANSI Z87.1–1989, “American National Standard Practice for Occupational and Educational Eye and Face Protection,” which is incorporated by reference in §1915.5.

(2) Eye and face protection devices that the employer demonstrates are at least as effective as protective eye and face protection devices that are constructed in accordance with one of the above consensus standards will be deemed to be in compliance with the requirements of this section.

[61 FR 26352, May 24, 1996, as amended at 74 FR 46358, Sept. 9, 2009]

§ 1915.154 Respiratory protection.

Respiratory protection for shipyard employment is covered by 29 CFR 1910.134.

§ 1915.155 Head protection.

(a) *Use.* (1) The employer shall ensure that each affected employee wears a protective helmet when working in areas where there is a potential for injury to the head from falling objects.

(2) The employer shall ensure that each affected employee wears a protective helmet designed to reduce electrical shock hazards where there is potential for electric shock or burns due to contact with exposed electrical conductors which could contact the head.

(b) *Criteria for protective helmets.* (1) Head protection must comply with any of the following consensus standards:

(i) ANSI Z89.1–2003, “American National Standard for Industrial Head Protection,” which is incorporated by reference in §1915.5;

(ii) ANSI Z89.1–1997, “American National Standard for Industrial Head Protection,” which is incorporated by reference in §1915.5; or

(iii) ANSI Z89.1–1986, “American National Standard for Personnel Protection—Protective Headwear for Industrial Workers—Requirements,” which is incorporated by reference in §1915.5.

(2) Head protection devices that the employer demonstrates are at least as effective as head protection devices that are constructed in accordance with one of the above consensus standards will be deemed to be in compliance with the requirements of this section.

[61 FR 26352, May 24, 1996, as amended at 74 FR 46358, Sept. 9, 2009]

§ 1915.156 Foot protection.

(a) *Use.* The employer shall ensure that each affected employee wears protective footwear when working in areas where there is a danger of foot injuries due to falling or rolling objects or objects piercing the sole.

(b) *Criteria for protective footwear.* (1) Protective footwear must comply with any of the following consensus standards:

(i) ASTM F–2412–2005, “Standard Test Methods for Foot Protection,” and ASTM F–2413–2005, “Standard Specification for Performance Requirements for Protective Footwear,” which are incorporated by reference in §1915.5;

(ii) ANSI Z41–1999, “American National Standard for Personal Protection—Protective Footwear,” which is incorporated by reference in §1915.5; or

(iii) ANSI Z41-1991, "American National Standard for Personal Protection—Protective Footwear," which is incorporated by reference in § 1915.5.

(2) Protective footwear that the employer demonstrates is at least as effective as protective footwear that is constructed in accordance with one of the above consensus standards will be deemed to be in compliance with the requirements of this section.

[61 FR 26352, May 24, 1996, as amended at 74 FR 46358, Sept. 9, 2009]

§ 1915.157 Hand and body protection.

(a) *Use.* The employer shall ensure that each affected employee uses appropriate hand protection and other protective clothing where there is exposure to hazards such as skin absorption of harmful substances, severe cuts or lacerations, severe abrasions, punctures, chemical burns, thermal burns, harmful temperature extremes, and sharp objects.

(b) *Hot work operations.* The employer shall ensure that no employee wears clothing impregnated or covered in full or in part with flammable or combustible materials (such as grease or oil) while engaged in hot work operations or working near an ignition source.

(c) *Electrical protective devices.* The employer shall ensure that each affected employee wears protective electrical insulating gloves and sleeves or other electrical protective equipment, if that employee is exposed to electrical shock hazards while working on electrical equipment.

§ 1915.158 Lifesaving equipment.

(a) *Personal flotation devices.* (1) PFDs (life preservers, life jackets, or work vests) worn by each affected employee must be United States Coast Guard (USCG) approved pursuant to 46 CFR part 160 (Type I, II, III, or V PFD) and marked for use as a work vest, for commercial use, or for use on vessels. USCG approval is pursuant to 46 CFR part 160, Coast Guard Lifesaving Equipment Specifications.

(2) Prior to each use, personal flotation devices shall be inspected for dry rot, chemical damage, or other defects which may affect their strength and buoyancy. Defective personal flotation devices shall not be used.

(b) *Ring life buoys and ladders.* (1) When work is being performed on a floating vessel 200 feet (61 m) or more in length, at least three 30-inch (0.76 m) U.S. Coast Guard approved ring life buoys with lines attached shall be located in readily visible and accessible places. Ring life buoys shall be located one forward, one aft, and one at the access to the gangway.

(2) On floating vessels under 200 feet (61 m) in length, at least one 30-inch (0.76 m) U.S. Coast Guard approved ring life buoy with line attached shall be located at the gangway.

(3) At least one 30-inch (0.76 m) U.S. Coast Guard approved ring life buoy with a line attached shall be located on each staging alongside of a floating vessel on which work is being performed.

(4) At least 90 feet (27.43m) of line shall be attached to each ring life buoy.

(5) There shall be at least one portable or permanent ladder in the vicinity of each floating vessel on which work is being performed. The ladder shall be of sufficient length to assist employees to reach safety in the event they fall into the water.

[61 FR 26352, May 24, 1996, as amended at 67 FR 44543, July 3, 2002]

§ 1915.159 Personal fall arrest systems (PFAS).

The criteria of this section apply to PFAS and their use. Effective January 1, 1998, body belts and non-locking snaphooks are not acceptable as part of a personal fall arrest system.

(a) *Criteria for connectors and anchorages.* (1) Connectors shall be made of drop forged, pressed, or formed steel or shall be made of materials with equivalent strength.

(2) Connectors shall have a corrosion-resistant finish, and all surfaces and edges shall be smooth to prevent damage to the interfacing parts of the system.

(3) D-rings and snaphooks shall be capable of sustaining a minimum tensile load of 5,000 pounds (22.24 Kn).

(4) D-rings and snaphooks shall be proof-tested to a minimum tensile load of 3,600 pounds (16 Kn) without cracking, breaking, or being permanently deformed.